

CLAIMS

The invention claimed is:

- 5 1. A communication device comprising:
 a physical medium; and
 a processor coupled with the physical medium, wherein the processor is
 adapted to
- 10 (a) receive a plurality of reservation request frames from a plurality of respective
 devices during a Centralized Contention Interval for a wireless communication
 channel;
- (b) decode a reservation request from each reservation request frame, and a return
 address of a MAC sublayer of an associated device;
- (c) determine at a MAC sublayer a schedule of transmission sessions for
- 15 exchanging data with the respective devices as per the respective reservation requests;
- (d) identify one of the devices from the schedule as being the next one;
- (e) encode the associated return address of the next device in a polling frame;
- (f) acquire control of the channel;
- (g) transmit the polling frame over the channel while in a DCF mode; and
- 20 (h) exchange data over the channel from the identified device during the
 respective session.
2. The device of claim 1, wherein the processor is further adapted to:
 identify another one of the devices from the schedule as being the next one;
- 25 and
- repeat (e) through (h).
3. The device of claim 1, wherein
 receiving the data is to be within a SIFS of transmitting the polling frame.
- 30 4. The device of claim 1, wherein
 the polling frame is a CTS frame.
5. A communication device comprising:

a physical medium; and
a processor coupled with the physical medium, wherein the processor is adapted to

- transmit a reservation request through a wireless communication channel
5 during a Centralized Contention Interval;
receive a polling frame through the channel while in a DCF mode;
decode a return address from the polling frame;
determine whether the return address matches an address of a MAC sublayer;
and
10 if so, transmit data from the MAC sublayer through the channel.

6. The device of claim 5, wherein the processor is further adapted to:
decode a duration of a session window from the polling frame; and
discontinue transmitting data after the session window ends.

15 7. The device of claim 5, wherein
transmitting the data from the MAC sublayer is to be performed within a SIFS
from receiving the polling frame.

20 8. The device of claim 5, wherein
the polling frame is a CTS frame.

9. An article comprising: a storage medium, said storage medium having stored thereon instructions, that, when executed by at least one device, result in:

- 25 (a) receiving a plurality of reservation request frames from a plurality of respective devices during a Centralized Contention Interval for a wireless communication channel;
(b) decoding a reservation request from each reservation request frame, and a return address of a MAC sublayer of an associated device;
30 (c) determining at a MAC sublayer a schedule of transmission sessions for exchanging data with the respective devices as per the respective reservation requests;
(d) identifying one of the devices from the schedule as being the next one;
(e) encoding the associated return address of the next device in a polling frame;
(f) acquiring control of the channel;

- (g) transmitting the polling frame over the channel while in a DCF mode; and
- (h) exchanging data over the channel from the identified device during the respective session.

5 10. The article of claim 9, wherein the instructions further result in:
 identifying another one of the devices from the schedule as being the next one;
 and
 repeating (e) through (h).

10 11. The article of claim 9, wherein
 receiving the data is within a SIFS of transmitting the polling frame.

12. The article of claim 9, wherein
 the polling frame is a CTS frame.

15 13. An article comprising: a storage medium, said storage medium having stored
 thereon instructions, that, when executed by at least one device, result in:
 transmitting a reservation request through a wireless communication channel
 during a Centralized Contention Interval;
20 receiving a polling frame through the channel while in a DCF mode;
 decoding a return address from the polling frame;
 determining whether the return address matches an address of a MAC
 sublayer; and
 if so, transmitting data from the MAC sublayer through the channel.

25 14. The article of claim 13, wherein the instructions further result in:
 decoding a duration of a session window from the polling frame; and
 discontinuing transmitting data after the session window ends.

30 15. The article of claim 13, wherein
 transmitting the data from the MAC sublayer is performed within a SIFS from
 receiving the polling frame.

16. The article of claim 13, wherein

the polling frame is a CTS frame.

17. A method comprising:

- (a) receiving a plurality of reservation request frames from a plurality of
5 respective devices during a Centralized Contention Interval for a wireless
communication channel;
- (b) decoding a reservation request from each reservation request frame, and a
return address of a MAC sublayer of an associated device;
- (c) determining at a MAC sublayer a schedule of transmission sessions for
10 exchanging data with the respective devices as per the respective reservation requests;
- (d) identifying one of the devices from the schedule as being the next one;
- (e) encoding the associated return address of the next device in a polling frame;
- (f) acquiring control of the channel;
- (g) transmitting the polling frame over the channel while in a DCF mode; and
15 (h) exchanging data over the channel from the identified device during the
respective session.

18. The method of claim 17, further comprising:

- identifying another one of the devices from the schedule as being the next one;
- 20 and
- repeating (e) through (h).

19. The method of claim 17, wherein

- receiving the data is within a SIFS of transmitting the polling frame.

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20. The method of claim 17, wherein

the polling frame is a CTS frame.

21. A method comprising:

- 30 transmitting a reservation request through a wireless communication channel
during a Centralized Contention Interval;
- receiving a polling frame through the channel while in a DCF mode;
- decoding a return address from the polling frame;

determining whether the return address matches an address of a MAC sublayer; and

if so, transmitting data from the MAC sublayer through the channel.

5 22. The method of claim 21, further comprising:

decoding a duration of a session window from the polling frame; and
discontinuing transmitting data after the session window ends.

23. The method of claim 21, wherein

10 transmitting the data from the MAC sublayer is performed within a SIFS from
receiving the polling frame.

24. The method of claim 21, wherein
the polling frame is a CTS frame.

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